Bellwork: 10/4/12

Find the equation of the line of the table shown below:

x	y
18	2
15	0
12	-2
9	-4
6	-6

-3, -2; -3, -2; -3, -2; -3, -2

$m = \frac{-2}{-3} = \frac{2}{3}$

$y - 0 = \frac{2}{3}(x - 15)$

$y = \frac{2}{3}x - 10$

$(2/3) * 15$

Graphing Inequalities:

* To graph a line, it must be in SLOPE INTERCEPT form.
* line is SOLID when $\geq$ or $\leq$.
* line is DOTTED when $>$ or $<$.
* use a test point to shade:
  if point is TRUE, shade that side
  if point is FALSE, shade opposite.

Graph each inequality:

① $y \geq 3x - 1$

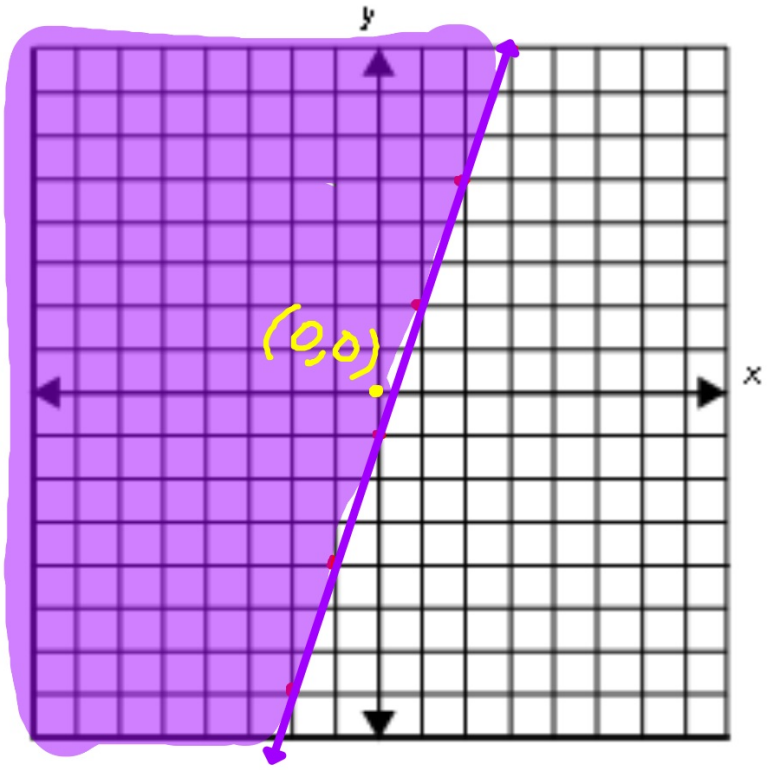
$m = \frac{3}{1}$

$b = -1$

$0 \geq 3(0) - 1$

$0 \geq -1$

TRUE



$y < 3x - 1$

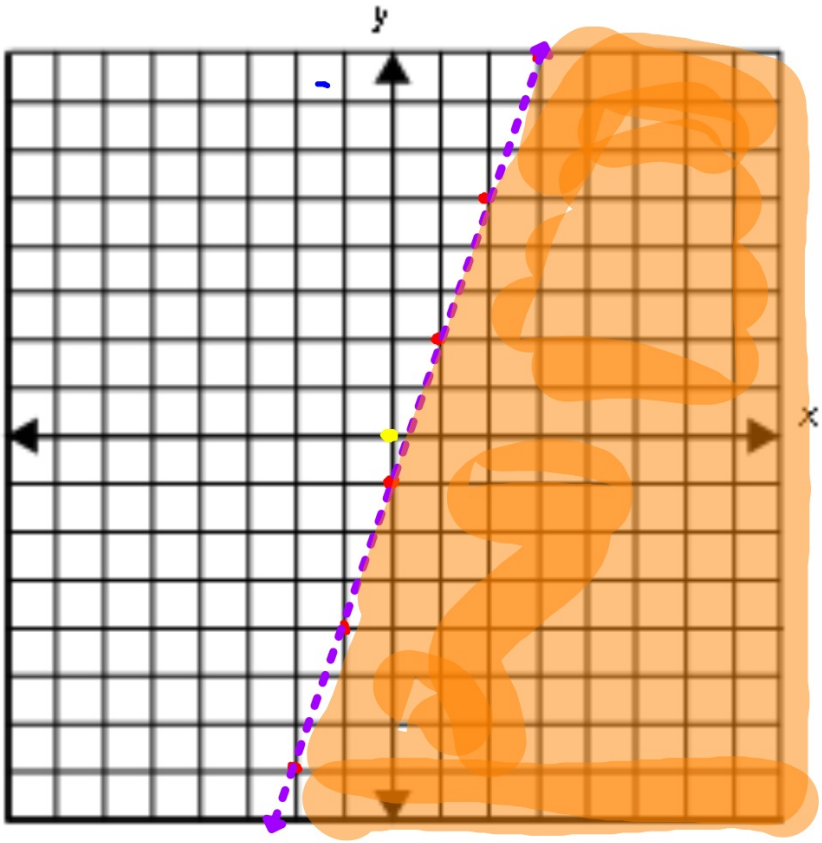
$b = -1$

$m = \frac{3}{1}$

$0 < 3(0) - 1$

$0 < -1$

FALSE



③ $5x + 2y \geq 10$

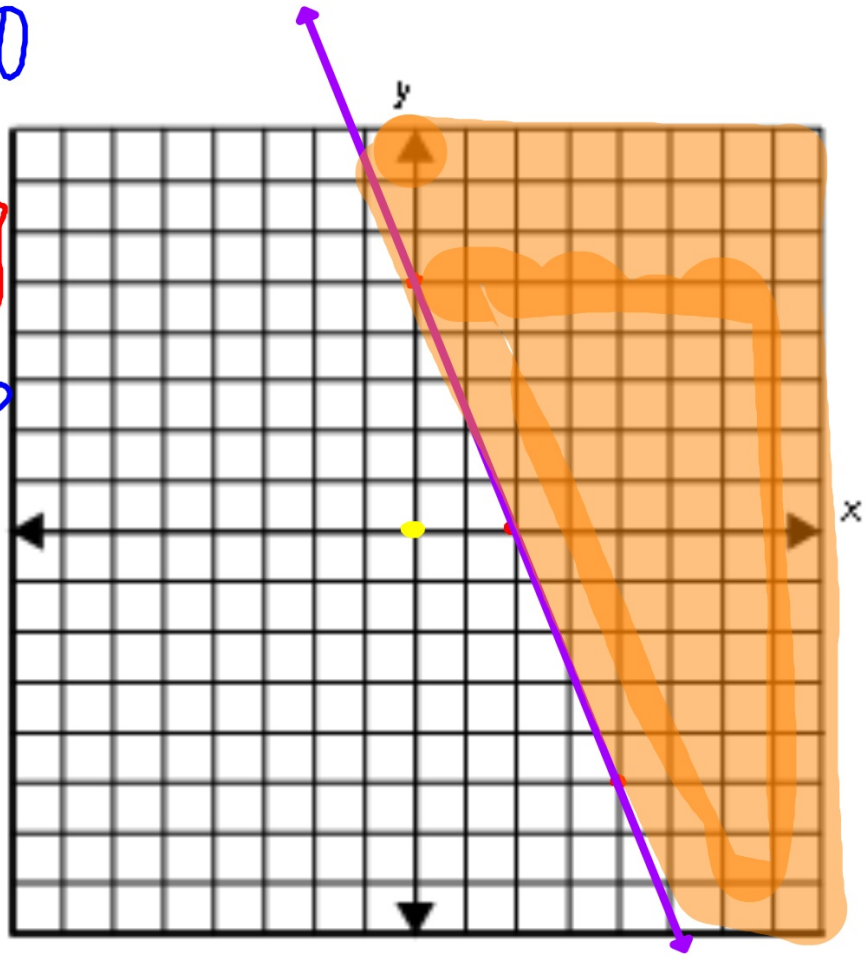
$2y \geq -5x + 10$

$y \geq -\frac{5}{2}x + 5$

$5(0) + 2(0) \geq 10$

$0 \geq 10$

FALSE



④ $3x - 4y > 12$

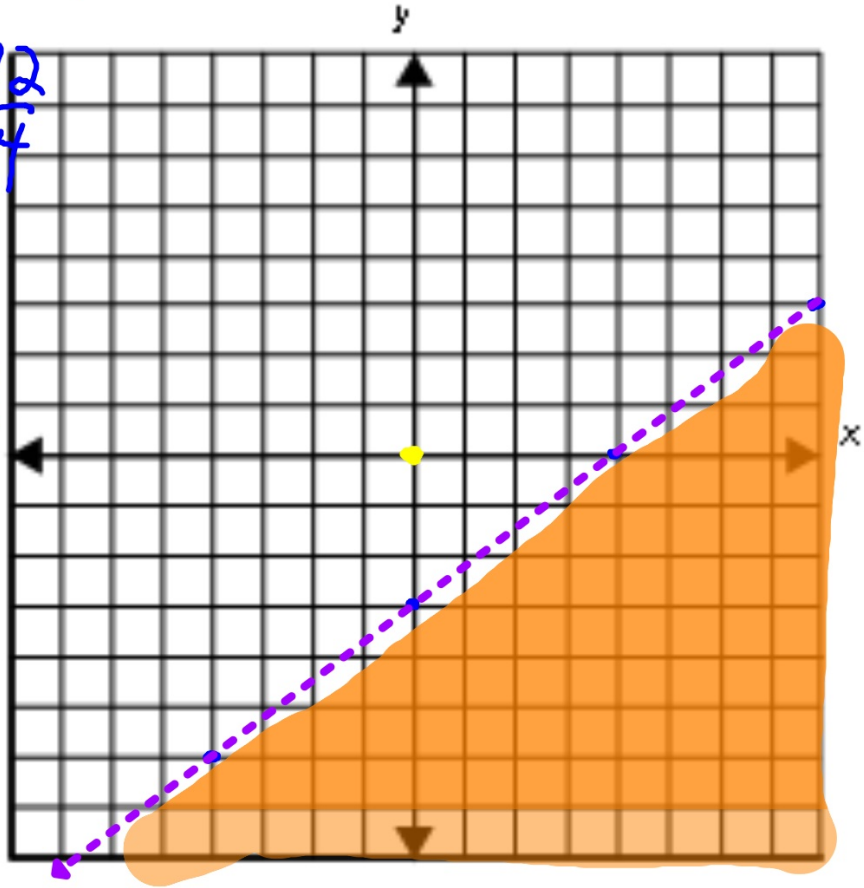
$\frac{-4y}{-4} > \frac{-3x}{-4} + \frac{12}{-4}$

$y < \frac{3}{4}x - 3$

$3(0) - 4(0) > 12$

$0 > 12$

FALSE



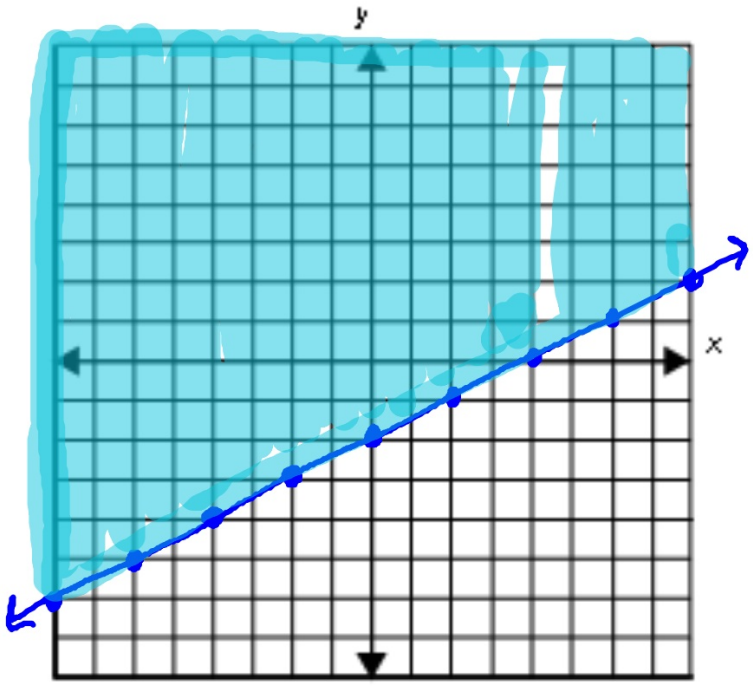
Write an inequality for each graph:

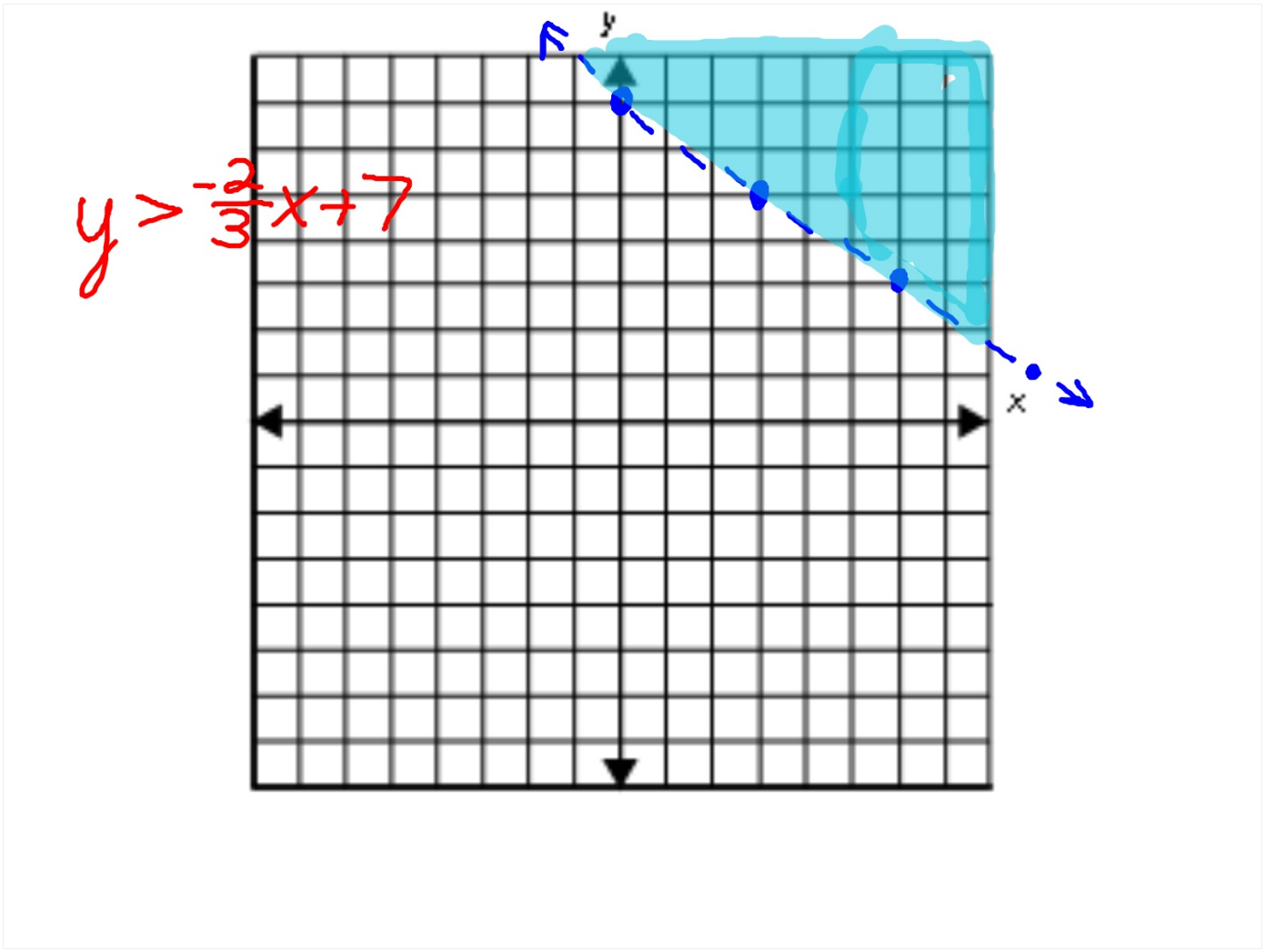
$y \geq \frac{1}{2}x - 2$

$0 \geq \frac{1}{2}(0) - 2$

$0 > -2$

TRUE

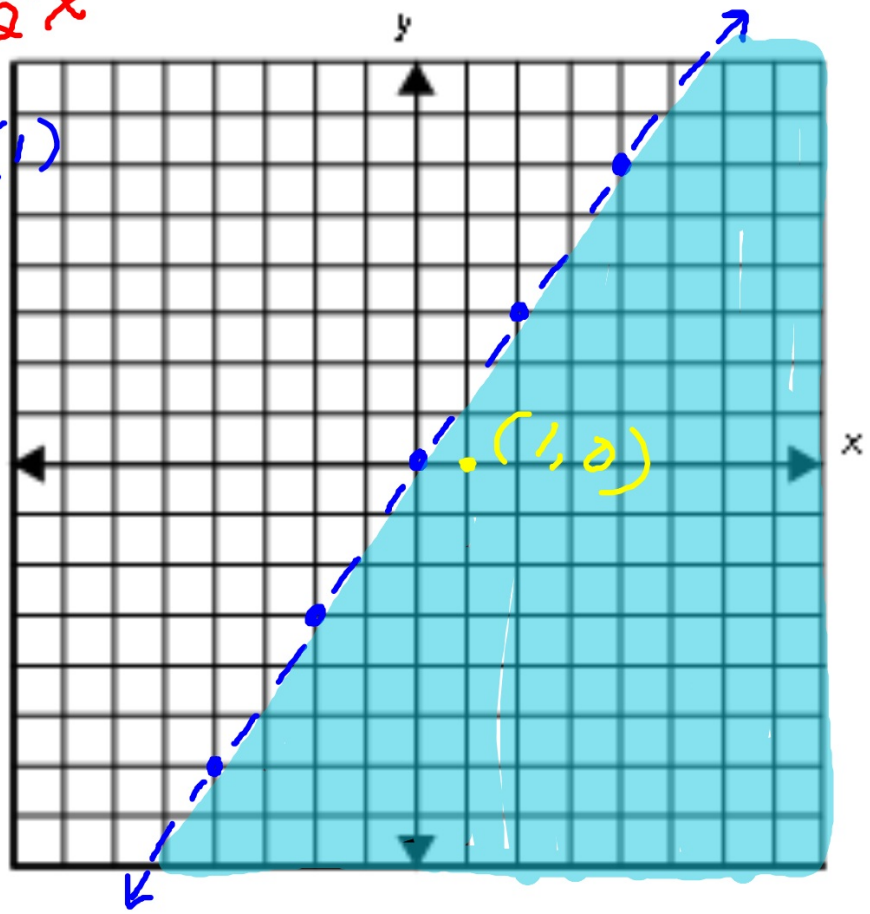



y
x
y > -2/3x + 7

$y < \frac{3}{2}x$

$0 < \frac{3}{2}(1)$

$0 < \frac{3}{2}$



You have a $25 calling card. Calls made using the card within the United States cost $.10 per minutes while calls made from the US to France cost $.25 per minute.

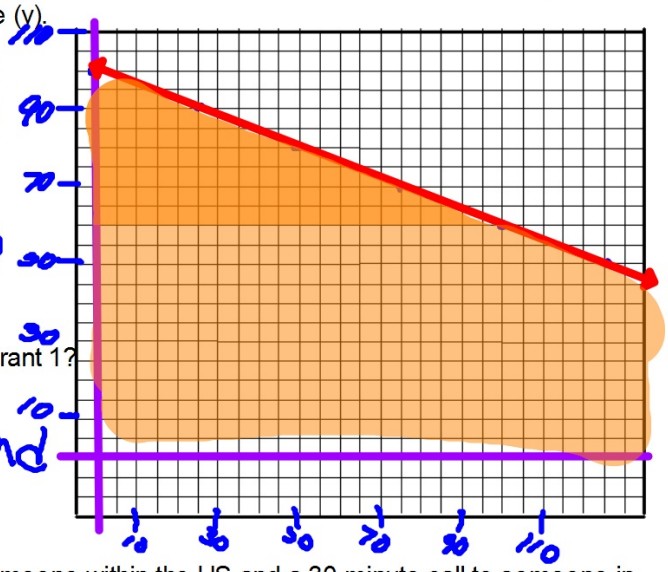
a. Write an inequality that relates the number of minutes you can use for calls within the US (x) and the number of minutes you can use for calls from the US to France (y).

$.10x + .25y \leq 25$

$.25y \leq -.10x + 25$

$y \leq -\frac{2}{5}x + 100$

b. Graph the inequality.



c. REASONING: Why did the graph only include quadrant 1?

You can not make negative calls or spend negative money

d. REASONING: Can you make a 55 minute call to someone within the US and a 30 minute call to someone in France? Explain.

$.10(55) + .25(30) \leq 25$

$5.50 + 7.50 \leq 25$

$13 \leq 25$

Since my calls only total $13 I can make 55 minutes of calls to US and 30 minutes of call to France.